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THE AGRICULTURAL
SITUATION IN

POLAND

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CONTENTS

	Page
Agriculture's Position in the Economy -----	1
Land Tenure -----	2
Collectives -----	3
State Farms -----	6
Private Farms -----	8
Land Utilization -----	10
Production -----	11
Crops -----	12
Livestock -----	14
Means of Production -----	16
Fertilizer -----	16
Machinery -----	18
Rural Construction -----	20
Rural Electrification -----	22
Prices and Marketing -----	22
Farm Credit -----	26
Taxation -----	26
Farm Organizations -----	27
Food -----	28
Foreign Trade in Farm Products -----	31
Plans and Perspectives -----	32

THE AGRICULTURAL SITUATION IN POLAND */

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Poland's agriculture in 1958 presented a generally favorable picture. Farm output and farm income were rising, and improvements could be noted in many fields of agricultural endeavor. These achievements are largely the result of the new agricultural policy inaugurated with the coming to power of Gomulka. This policy removed several of the most irrational obstacles to agricultural progress. It released new energies which, favored by good climatic conditions, led to a succession of rich harvests and a general upswing in farm production. Yet in spite of these accomplishments great weaknesses are still inherent in the structure of Polish farming. Many basic problems which have plagued agriculture in the past remain unsolved.

Agriculture's Position in the Economy

The share of agriculture in the national income amounted during recent years (1954-57) to between 25-30 percent. In 1957 the agricultural population represented 45 percent of the total population, the agricultural labor force 47 percent of the total labor force. 1/ In old Poland 2/ at least 50 percent of the national income originated in agriculture. 3/ About 60 percent of the population was supported by agriculture, while 64 percent of the labor force was engaged in farming. 3/

These data suggest sharp contrasts between the past and present socio-economic framework within which agriculture operates. Indeed, the transformation of Poland from an agricultural country into one where industry predominates, had a profound

*/ All statistical data in this report are, unless otherwise noted, from Rocznik Statystyczny 1957 and 1958, Vols. XVII and XVIII, Central Statistical Office, Warsaw, 1957 and 1958.

1/ Estimates based on "PZPR Directives for Poland's Economic Development 1959-1965," Trybuna Ludu, Oct. 24, 1958.

2/ Comparison with prewar refers either to Poland within its prewar boundaries or to the territory within present boundaries in prewar times. In the first case, reference will be made shortly to "old Poland." If the prewar territory is not specifically defined, the area within present boundaries is referred to.

3/ Petit Annuaire Statistique de la Pologne 1939, Central Statistical Office, Warsaw, 1939.

impact on farming. A large part of the farm surplus population found employment in towns, creating at the same time a strong demand for farm products. The relative position of the peasantry has been improved.

The new relationship between city and countryside was, however, shaped by another fundamental change distinguishing prewar from present day Poland: with the assumption of power by a communist government a new social regime was installed. This involved the almost complete socialization of all economic activities outside agriculture, which remained predominantly based on private enterprise. The ensuing antagonism between these two modes of production became a decisive factor in the postwar development of Polish agriculture.

Land Tenure

The evolution of land tenure since the end of World War II falls into three major phases: The period of land reform beginning in 1944-45 and lasting approximately until 1949; the period of intensive socialization between 1949 and 1956; and the period since 1956, when private farming was again sanctioned and even supported by the government.

During the land reform, more than 1 million private farms including about 30 percent of the farmland were either newly created or enlarged. But a considerable part of the land confiscated during the reform was not distributed among individuals and remained public property. In this way a nucleus of socialist farming emerged in the form of state farms. Since the government often failed to confer legal title to the holders of newly acquired land, the land reform resulted in insecurity of tenure on many of the new private farms. Thus the foundations of private farming were undermined, a propitious condition, as it seemed at the time, for further socialization.

Between 1949 and 1956 great efforts were made to promote collectivization. Yet the growth in the number of collectives has been slower than in most other Eastern European countries. By the middle of 1956, slightly less than 10 percent of the agricultural area was in collectives. At that time, 23 percent of the total agricultural area was socialized, about 14 percent being in state and other public farms. Private farms covered about 77 percent of the farmland. One year later, by mid-1957, collectives had almost disappeared. They extended over only 1.2 percent of the total farming area. The socialized sector -- collectives, state and other public farms -- contained 14.6 percent of total farmland. Farmland, privately owned, had increased by 1,795,000 hectares, or 11 percent, primarily owing to the dissolution of collectives, but also to the transfer of some state and public land to private farming.

Year	Land Tenure				
	Private farms	Collectives	State farms	Other public farms	Total
<u>1/</u>	<u>1,000</u> <u>hectares</u>	<u>1,000</u> <u>hectares</u>	<u>1,000</u> <u>hectares</u>	<u>1,000</u> <u>hectares</u>	<u>1,000</u> <u>hectares</u>
1956	15,629.5	1,962.6	2,570.7	240.0	20,402.8
1957	17,424.5	238.3	2,516.0	224.0	20,402.8
1958	17,534.6	205.5	2,326.1	336.6	20,402.8
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
1956	76.6	9.6	12.6	1.2	100.0
1957	85.4	1.2	12.3	1.1	100.0
1958	85.9	1.0	11.4	1.6	100.0

1/ June.

2/ Including private plots.

Sources: Rocznik Statystyczny 1957; Maly Rocznik Statystyczny 1958, Vol. I.

Central Statistical Office, Warsaw, 1958; Biuletyn Statystyczny, Vol. II, no. 9. Warsaw, 1958.

Collectives--The political events of October 1956 were accompanied by the near collapse of collective farms. By December 1956, their number had been reduced to 15 percent, their area to 12 percent of what they had been in June of the same year. The disturbances caused by the redistribution of land and equipment from dissolved collectives were unimportant and did not dislocate agricultural production to any significant extent. The mass exodus from collectives leaves little doubt about the attractiveness of collective farming to the great masses of the Polish peasantry. Many of those leaving collectives had joined them only under pressure; many others who had entered collectives voluntarily found this way of farming unrewarding.

However, by the end of 1956 some 1,500 collective farms had survived the storm. By March 1958, their number had even slightly increased. At that time there existed 1,652 collectives, including about 22,000 farm households against 188,000 collective households at the peak of collectivization.

Table 2. --- Collectives: Number, area, and number of families, 1949-58

Year	<u>1/</u>	Number of collectives	Agricultural land		Families	
			Total	In private plots	Total	Contributing land
			<u>hectares</u>	<u>hectares</u>	<u>Number</u>	<u>Number</u>
1949		243	--	--	--	---
1950		635	190,300	8,800	16,900	15,900
1951		2,707	684,800	41,900	67,100	62,500
1952		3,034	756,700	47,800	78,700	71,000
1953		6,228	1,380,300	90,300	146,500	132,400
1954		8,109	1,712,600	117,200	175,100	156,300
1955		9,076	1,866,900	128,400	188,500	164,800
1956	<u>2/</u>	9,975	2,121,000	3/	3/	3/
1956	<u>4/</u>	1,534	260,101	17,758	26,985	21,223
1957		1,640	211,600	16,800	23,300	16,800
1958	<u>5/</u>	1,652	219,700	14,628	22,300	16,100

1/ Year ending.

2/ June.

3/ Not available.

4/ December

5/ March

Source: *Rocznik Statystyczny; Biuletyn Statystyczny*, 1957 and 1958, various issues.

At present collectives are much smaller than before. Their average size in March 1958 was 133 hectares against 197 in September 1956 and over 200 in previous years. Also the share of land contributed by members is now smaller. In September 1956, 84 percent of the collectives' land was contributed by members, 16 percent came from the state; but in March 1958, one-third of the area of collectives consisted of land given to them by the state.

Important changes have also occurred in the social composition of the collectives' membership. In 1956, 16 percent of all households represented landless peasant families. In 1958, this percentage had risen to 28. Before the great reduction in the number of collectives, peasant families coming from farms above five hectares represented the bulk of collective households. Now the majority of households is composed of families coming from farms of less than five hectares, mostly of about 2

hectares. Another interesting change consists in the relative increase of women among members of collectives. They represented 23 percent of the total membership in September 1956 against 29 percent in March 1958.

These facts explain to a large extent why so many collectives have survived. Peasants may prefer collective to private farming if their holdings are very small and conditions of production unfavorable. This seems still more true of certain landless peasants who would be reduced to simple wage laborers outside collectives. Peasant women who are the mainstay of their families might also find it easier to live and work in collectives instead of managing small holdings independently.

However, another important reason that makes collective farming still attractive for many peasants is the far-reaching autonomy which collectives now enjoy. Before the great changes in Poland's agricultural policy, collective farms were organized according to officially devised rules which were binding on all collectives throughout the country. There existed four different standard types of collectives distinguished from each other by the degree of common ownership in land and means of production and according to the way of income distribution. The activity of collectives was thus strictly regulated. This contradicted not only the allegedly cooperative character of collectives, but actually hampered their work and impaired efficiency, since the rules imposed from outside generally did not correspond to the specific conditions of individual collectives. Now collective farms apparently possess full self-government. They draw up their own statutes, determine themselves the lines of production they wish to engage in, and decide the supremely important question of how much of their total income is to be paid out to members and how much is to be retained for investment. Collectives now operate and even own industrial and servicing establishments.

The right to own all types of agricultural machinery makes collectives also less dependent on the state than in the past when they had to rely exclusively on the services of State Machine Centers. Nevertheless, collectives continue to lean heavily on the government because of the assistance which they receive from it.

State aid consists of low obligatory delivery quotas (including the right of selling more than the average farm directly to the consumer), large credits, low taxes, priority in the services of Machine Tractor Stations (including considerably lower service rates), and other advantages. It is true, state aid to collectives is now to be given only according to "sound economic criteria." Collectives which have existed or could exist only with the help of state subsidies are to be deprived of such aid, even if this means dissolution. However, state aid to collectives will probably not be too closely tied to economic criteria. Since collectivization remains one of the fundamental principles on which Polish agricultural policy hopes to stake its future success, it is politically important to demonstrate the accomplishments and hence

attractiveness of collective farming.

State farms-- State farms, the other and more important component of the socialist sector in agriculture, covered about 14 percent of Poland's agricultural area in 1956. There are two kinds of state farms: State farms proper (Panstwowe Gospodarstwa Rolne, or PGR) and other public farms including school farms, experimental farms, and farms attached to various public institutions. The former numbering over 6,000 included 2,516,000 hectares of agricultural land in 1957. Most of these farms were comparatively large--covering more than 300 hectares of farmland. Public farms, other than state farms proper, are small. In 1957 their number was 3,700, most of them being below 50 hectares.

Table 3.--State Farms and Other Public Farms: Number and area, 1956-58

Year	State farms		Other public farms		Total	
	Number	Agricultural land 1,000 hectares	Number	Agricultural land 1,000 hectares	Number	Agricultural land 1,000 hectares
1956	6,556	2,570.7	4,000	240.0	10,556	2,810.7
1957	6,079	2,516.0	3,400	224.0	9,479	2,740.0
1958	1/	2,326.1	1/	336.6	1/	2,662.7

1/ Not available.

Source: Rocznik Statystyczny, and Biuletyn Statystyczny 1958, various issues.

State farms proper (PGR) have also been affected by the events of 1956 and the subsequent policy changes. They have undergone a fundamental reorganization, which is not yet fully completed. Thereby they also suffered a reduction in area which, by June 1958, was some 243,000 hectares, or 9 percent, less than in 1956. A large part of the land ceded by state farms has been returned to individual farmers. Moreover, public farms other than the PGR's have increased since 1956 apparently at the expense of the latter. Both groups together still accounted, however, for 13 percent of Poland's farmland by June 1958, and thus represented an important element in its agriculture.

Up to 1956, farming on state farms showed generally very poor results. Crop yields were below the national average; milk yields, it is true, were higher, but livestock density was generally lower. Both the value of output and the marketable surplus per hectare of farmland were lower than on private farms.

The weakness of state farms was due to a number of factors. Most important among them was the fact that state farms during the period 1950-55 had to assume responsibility for farming about 1 million hectares of war-devastated land, mainly in the northern and western territories. For instance, in the Provinces of Szczecin and Koszalin 41 and 37 percent of the total farm area were in state farms. Most of these farms had few buildings, little livestock, and insufficient equipment. They were also short of labor. Although state farms before 1957 had priority in receiving machinery (or the services of Machine Tractor Stations) and commercial fertilizers, the aid to them by the state was nevertheless inadequate for the rehabilitation of the farms and farmland with which they were entrusted.

Another factor hampering the development of state farms was the financial regime under which they operated until 1957. The prices received for deliveries of farm products to the state were far below those which peasants obtained for free-market or extra-quota sales. Subsidies received from the state were barely adequate to cover current costs, let alone the heavy capital expenditures which many state farms required in order to become going concerns.

A third factor retarding the development of state farms consisted in the overcentralized organizational setup. Many state farms, especially in the new territories, consisted of an amalgamation of divided former private farms, broken-up estates, and widely dispersed parcels of ownerless land. They formed thus unwieldy units, the management of which was vested not in local administrators, but in commissions and boards far removed from the field of operations.

The reforms undertaken since 1957 aim at the decentralization of management and at the introduction of so-called full-cost accounting according to the profit principle. Physical farm units are to become self-contained economic enterprises instead of being merely parts of a large centrally managed group of farms. The rights of the farm managers are to be greatly increased. They, together with the farm's workers' council, are henceforth to decide production plans. The supervision and control of state farms by regional boards are to devolve on local village councils. (Thus, the 45 supervisory boards managing Poland's state farms in 1956 were replaced in 1957 by 8 regional Inspectorates with rather limited authority.)

By mid-1958 more than half of the state farms had reportedly switched to the system of full-cost accounting. This entails higher prices for deliveries than those received in the past. Profits achieved can now be used for reinvestments. Part of the profits is to be paid out to the farm laborers, whose wages have also been raised in the course of this reform. State aid is to be limited to those capital expenditures which the farms are unable to undertake by their own means.

On state farms where shortages of buildings and manpower cannot be easily remedied the present practice of mixed farming is to be abandoned in favor of extensive farming. Where the reform of state farms appears altogether unpromising, their land is to be divided among individual farmers. Some 200-300,000 hectares of land are to be disposed of in this way at low prices. It is hoped that in regions where land prices are particularly high, certain peasants may be induced to sell their land in order to buy state land elsewhere at low prices. These farmers would thus be able not only to acquire larger holdings but also to save enough capital to equip the farmland acquired from the state.

Another way of disposing of such state farmland is also being tried--namely, the transformation of state farms into collectives. The laborers on such farms would manage the farms on their own account as collective peasants. Some 20 such farms were established in 1958 on a trial basis, but preliminary reports seem to indicate that this experiment is not succeeding.

Private farms--Family farms are representative of Poland's farm enterprises. Most of them are small and inefficient. In 1950, private farms of up to 5 hectares represented almost three-fifths of all farms. They included only one-fourth of the privately held farmland, but contained 43 percent of the farm population. The productivity and the marketable surplus of these farms are very low. They absorb an inordinately high proportion of resources, which could be more efficiently used under a more rational land tenure system.

The effect of changes in land tenure on the size of farm enterprises is one of the central problems of Polish agriculture. Neither the land reform, nor collectivization, nor the period thereafter, has led to improvements in the structure of land tenure and hence the size of farms. On the contrary, conditions tend continuously to worsen.

In 1949, after the completion of the land reform, the proportion of farms of up to 5 hectares was only slightly less than in prewar Poland--61 percent against 64 percent in 1931. In 1954, this proportion rose, although the total number of farms as well as the number of farms above 5 hectares declined. In 1957, after the dissolution of most collectives, the effects of the land reform and of socialization on the size of farms were entirely wiped out. Small farms were more numerous than at the beginning of the postwar period, and the total of private farms had risen to 3,633,000 against 3,169,000 in 1950. 4/

4/ The use of different statistical methods might have slightly exaggerated the increase in farm numbers, but the fact that there was a very strong increase is unquestionable. See Zycie Gospodarcze, Vol. XIII, No. 41, Warsaw, 1958.

Table 4.--Private Farms: Distribution by size, 1950 and 1957, as percent of total number and area of private farms

Size class	1950		1957	
	Number	Area	Number	Area
0.1 - 2 hectares.....	25.9	4.8	30.8	6.3
2 - 5 hectares.....	31.3	20.1	32.6	23.4
5 - 10 hectares.....	30.8	42.0	27.0	41.0
10 -20 hectares.....	10.7	26.2	8.8	24.4
20 and more hectares.....	1.3	6.9	.8	4.9
Total.....	100.0	100.0	100.0	100.0

Source: Rocznik Statystyczny 1958.

Collectivization which was intended to increase the size of farm enterprises through amalgamation could not stem the continuous diminution of farms even at the height of the collectivization drive (1950-54). Larger private farmers tried to evade the burdens imposed on them by selling land or dividing it among family members. Population pressure leading to parcellation by inheritance had the same result. The process of industrialization, absorbing as it did large numbers of the rural population in urban areas, did not sufficiently relieve population pressure on the land to prevent further fragmentation.

The so-called land hunger is dramatically expressed in the movement of real estate transactions. Already in 1954, when government pressure on private farming was slightly relaxed, the number of rural estates bought and sold was 50 percent higher, and the average price of farmland 20 percent higher, than in 1953. In 1957, twice as many rural real estate transactions were carried out as in 1956 (almost seven times as many as in 1953), and the average price of farmland was 37 percent higher than in the previous year (100 percent above 1953). The average price of farmland in 1957, expressed in terms of the value of rye, amounted to 77 quintals per hectare of land, against 56 quintals in 1956.

While farm output has increased during recent years, it is obvious that the declining size of farms sets limits to the development of farming. This confronts farm policy with an almost insoluble dilemma: The trend toward fragmentation can be reversed either by socialization or by giving private enterprise free rein. The first solution has become impracticable after what has happened, the second is

inconceivable to a government wedded to the principle of socialization. An intermediary solution, favoring voluntary association and cooperation, which should finally lead to full-fledged socialist enterprises, is unlikely to succeed as long as the material preconditions for it do not obtain.

Land Utilization

Agricultural as well as arable land have been greatly reduced in consequence of the territorial changes brought about by World War II. While the total territory is now 18 percent smaller than that of prewar Poland, the agricultural land has declined by 20 percent, the arable land (including gardens) by 15 percent. However, land use at present is not greatly different from what it was before the war. Agricultural land, both in prewar and postwar years, within the old as well as the present boundaries, represents about two-thirds of the total territory, and arable land about one-half. Permanent pastures and meadows, however, represent now a smaller proportion of the total farmland than in old Poland, but have a slightly larger share in it than on the present territory before the war.

Table 5.--Poland: Land Utilization

Year	Total area	Agricultural Area						
		Total	Arable area	Gardens	Meadaws	Pastures	Forests	Other
	1,000 hectares	1,000 hectares	1,000 hectares	1,000 hectares	1,000 hectares	1,000 hectares	1,000 hectares	1,000 hectares
about 1954	31,173.0	20,402.8	15,913.8	309.4	2,389.9	1,789.7	7,265.9	3,504.3
1956	31,173.0	20,402.8	15,994.6	228.6	2,389.9	1,789.7	7,408.0	3,362.2
1931	37,897.2	25,589.2	18,557.1	552.0	3,803.7	2,676.3	8,322.4	3,985.6
Difference 1931-1956	-18	-20	-15	--	-37	-33	-11	-16

1/ Including vegetable gardens.

2/ Orchards only.

Sources: Rocznik Statystyczny 1955, Vol. XV, Central Statistical Office, Warsaw, 1955; Racznik Statystyczny 1957; Statystyka Rolnicza 1938, Central Statistical Office, Warsaw, 1939

Grains occupied about two-thirds of the sown area before the war and about 61 percent in 1957 and 1958. Also potatoes--the most important crop in terms of area--occupied in recent years practically the same proportion of the cultivated land as before the war within the old and the present boundaries. Significant changes have taken place only in regard to industrial and forage crops.

Of significance in present land utilization is the reduction in the proportion of arable land lying fallow. In prewar Poland and on the present territory before the

Table 6.--Land Utilization - Area sown to principal crops, average 1934-38, annual 1957 and 1958

Item	1934-38 <u>1/</u>	1934-38 <u>2/</u>	1957	1958
	Percent	Percent	Percent	Percent
Grains	66.4	65.2	61.1	60.6
Potatoes	16.8	17.8	17.9	18.0
Industrial crops	2.1	2.2	4.2	4.1
Fodder and forage crops	12.2	12.3	14.2	15.0
Other	2.5	2.5	2.6	2.3

1/ Prewar frontiers.

2/ Present frontiers.

Sources: Statystyka Rolnicza 1938; Heyn, C. Ostdeutschland's Landwirtschaft u ihre Überschusse, Bonn, 1951.

war, 7 and 6 percent of the cultivable area were in fallow, partly because of antiquated rotation practices. In most of the postwar years, however, fallow land assumed much larger proportions. Thus in 1949, and even still in 1954, it represented 10 percent of the arable land. With the onset of the new agricultural policy, peasants began to cultivate hitherto fallow land. Thus the percentage of fallow was reduced to 3-4 percent in 1957 and 1958. 5/

Production

In 1957-58, gross agricultural output--that is, the volume of agricultural end-use products including livestock products from imported feed, as calculated by FAS--was 93 percent of the 1934-38 average on the present territory and 11 percent above it in old Poland. 6/ Per capita production in 1957-58 was 32 percent higher than in old Poland and 5 percent above prewar level on the present territory.

5/ Part of this reduction is, however, due to changes in statistical concepts of land classification.

6/ In the latter comparison, upward adjustments in prewar statistics have been made because at least some of these statistics represent an under-estimate. If statistics pertaining to old Poland were accepted at face value, the index would be higher.

Crops-- Grains, potatoes, and sugar beets, comprising 81 percent of the sown area in 1957, are Poland's principal crops. Rye is by far the most important crop, covering about half the land under grains and representing 54 percent of the total grain output. Poland is the world's largest rye producer next to the Soviet Union. Oats are the second most important grain crop in terms of volume and area. Wheat occupies only third place and barley takes fourth place among the major grains, in addition to which there are several minor grains (buckwheat, millet, grain mixtures, and corn). The first three occupied in 1957 some 440,000 hectares. The area under corn has fluctuated strongly in recent years. It fell from 140,000 hectares in 1956 to 46,000 hectares in 1958.

The area under the four main grains is now smaller than in old Poland and on the present territory before the war. Production of these crops exceeded in 1955 for the first time that of old Poland and in 1957 even that of the present territory before the war. 7/ Grain yields in 1957 exceeded prewar yields within the prewar and present boundaries.

Although per capita production of grain is now considerably higher than before the war, Poland is a net importer of grain. In 1934-38 about 41 percent of the total grain harvest was consumed as food, 45 percent was used for feed and other purposes and 14 percent went into exports or stocks. 8/ In 1957-58 the quantity of grain consumed as food equaled 41 percent of the harvest, that consumed as feed and used for other purposes equaled 62 percent of domestic production. Hence imports equal to 3 percent of domestic output were necessary. (Actually imports were much higher-- 7 percent--since stocks were considerably increased.)

This change results primarily from the different uses of bread grains in comparison to prewar. Before the war, food consumption claimed 58 percent of the bread grain output (45 percent in old Poland), but in 1957-58, 55 percent. However, 13 percent of the bread grain harvest was fed before the war (15 percent in old Poland), but in 1957-58, 30 percent was fed. The amount of rye used for feed is now double what it was in the past. At the same time there has been a shift in human consumption from rye to wheat, the quantity of which used for food is now also double of that before the war.

7/ Disregarding the postwar upward revision of prewar German grain statistics, which, if taken into account, would make the 1957 grain harvest roughly equal to prewar.

8/ In prewar Poland the respective percentages were 47, 48, and 5.

Table 7.--Principal crops: Area, production, and yields, selected averages, 1934-55, annual 1957 and 1958

Commodity	Unit	Average						
		1934-38 Prewar frontiers	1934-38 Present frontiers	1946-49	1950-55	1956	1957	1958 ^{1/}
Wheat:								
Area	1,000 ha.	1,765	1,370	1,205	1,525	1,450	1,435	1,480
Production	1,000 M.T.	2,100	2,000	1,300	2,000	2,100	2,300	2,290
Yield	Q/ha.	11.9	14.6	10.8	13.1	14.5	16.0	15.9
Rye:								
Area	1,000 ha.	5,805	5,340	4,465	4,960	5,000	5,100	5,225
Production	1,000 M.T.	6,500	6,900	5,000	6,100	6,600	7,500	7,150
Yield	Q/ha.	11.2	12.8	11.2	12.3	13.2	14.7	14.3
Barley:								
Area	1,000 ha.	1,185	1,020	810	820	755	760	745
Production	1,000 M.T.	1,400	1,600	900	1,100	1,100	1,200	1,065
Yield	Q/ha.	11.8	15.7	11.1	13.4	14.6	15.8	15.2
Oats:								
Area	1,000 ha.	2,195	1,930	1,570	1,615	1,620	1,700	1,710
Production	1,000 M.T.	2,500	2,800	1,900	2,100	2,300	2,500	2,660
Yield	Q/ha.	11.4	14.5	12.1	13.0	14.2	14.7	15.2
Total of 4 Grains:								
Area	1,000 ha.	10,965	9,710	8,055	8,900	9,530	9,000	9,160
Production	1,000 M.T.	12,500	13,300	9,100	11,300	12,100	13,500	13,165
Yield	Q/ha.	11.4	13.7	11.3	12.7	13.7	15.0	14.4
Potatoes:								
Area	1,000 ha.	2,895	2,755	2,250	2,630	2,720	2,765	2,755
Production	1,000 M.T.	35,000	38,000	26,800	30,800	38,100	35,100	34,800
Yield	Q/ha.	121	138	119	117	140	127	126
Sugar beets:								
Area	1,000 ha.	130	225	220	350	360	340	355
Production	1,000 M.T.	2,800	6,000	3,900	6,500	6,400	7,600	8,400
Yield	Q/ha.	216	265	179	187	177	225	237

^{1/} Preliminary.Sources: Based on *Maly Rocznik Statystyczny*, 1953

This imbalance has been accentuated by lagging potato production, which reached the prewar level only during 1 postwar year (1956). The potato area is now about as large as before the war, but yields are lower. Potatoes are the most important single feed crop and, at the same time, a basic food crop.

Sugar beet production is now more than double that in old Poland, and exceeds also that of the present territory in prewar times. Yields, however, are lower.

Among the remaining crops, two groups deserve special attention--namely, industrial crops, other than sugar beets, and feed and forage crops. Both categories now occupy a larger proportion of the cultivated area than before the war. Industrial crops include oil and fiber crops, such as rape and rapeseed, flax and hemp, and also tobacco. Feed and forage crops include leguminous crops (clover, alfalfa, seradella), pulses (vetches, fodder beans), and fodder root crops (mangold).

Although great emphasis has been placed on the expansion of industrial crops and considerable incentives have been offered to producers, the actual increases fall short of government expectations. Particularly oil and fiber production proved disappointing. The expansion of the feed crop was relatively small and has at any rate not kept pace with the growth of livestock.

Livestock-- In 1958, livestock numbers (excluding poultry), in terms of livestock units, fell still short of the prewar level within the old and present boundaries. However, on a per capita basis they exceeded, or at least equaled, prewar levels.

After the great losses of the war period, which reportedly amounted to something like two-thirds of the prewar stock, the building up of livestock was rather swift up to 1950. Thereafter the growth in livestock numbers slowed down, but resumed again after 1953. In 1958, cattle and horse numbers had still not reached the prewar level, but hogs and sheep were far above it. Poultry numbers, for which statistics are very unreliable, are by now probably equal to, or near prewar.

The difference in growth of the two most important types of animals, cattle and hogs, was largely influenced by the price relationship between hogs and slaughter cattle. The strong demand for meat products, which arose after the war, led quite naturally to concentration on the development of hogs whose numbers could be increased most easily. Hog raising is also most suitable to the small farms prevailing in Poland. Sheep raising, stimulated by the expanding demand for textile raw materials, was also successfully expanded. The lag in horse numbers relative to prewar has been partly offset by the use of tractors.

Table 8.--Livestock: Total number, selected years 1938-58 1/

	Prewar frontiers 1938	Present frontiers 1938	1946	1949	1956	1957	1958
	<u>1,000</u> <u>head</u>	<u>1,000</u> <u>head</u>	<u>1,000</u> <u>head</u>	<u>1,000</u> <u>head</u>	<u>1,000</u> <u>head</u>	<u>1,000</u> <u>head</u>	<u>1,000</u> <u>head</u>
Cattle	10,554	9,924	3,911	7,072	8,353	8,265	8,207
Cows only	7,237	6,294	2,748	4,761	5,600	5,767	5,935
Hogs	7,525	9,684	2,674	6,120	11,561	12,325	11,999
Sows only	<u>2/</u>	<u>2/</u>	584	1,249	1,642	1,733	1,652
Horses	3,916	3,149	1,730	2,652	2,547	2,623	2,737
Sheep	3,411	1,941	727	1,945	4,223	4,040	3,893
Poultry (chickens)	<u>2/</u>	<u>2/</u>	<u>2/</u>	39,000	48,300	49,400	<u>2/</u>

1/ June census.

2/ Not available.

Sources: Statystyka Rolnicza 1938 ; Rocznik Statystyczny 1958 ;

Biuletyn Statystyczny No. 9, 1958

The failure of cattle numbers to increase faster is in the final analysis the result of the inadequate fodder basis. Feed crops proper take up only a relatively small proportion of the arable land. Yields are low, and permanent grazing land is badly underutilized.

The feed shortage is aggravated by inefficient feeding practices, particularly the lack of high-protein feeds. The peasant prefers to feed his bread grains instead of selling them and buying concentrates. The latter, however, are rather scarce. According to Polish estimates, the need for protein in livestock diets is at present

covered to only 75 percent.

The relative shares of the main livestock products in total livestock output were in 1956, according to Polish sources, as follows: Hog products accounted for 34 percent, cattle products (excluding milk) for 5 percent, milk alone for 34 percent, and eggs for 8 percent.

Pork, the most important meat product, supplies over 80 percent of the caloric intake derived from all meats. Pork fat accounts for about half of Poland's fat consumption. Pork products (hams) are among the principal farm exports.

Beef and veal supplies, on the other hand, are about equal to those in old Poland, but lower than on the present territory before the war. Milk production in 1957 was reportedly above that in old Poland in 1938. Although the number of milk cows is lower, milk yields per cow are said to be one-third higher than in the past. Whether this estimate is correct or not, butter statistics, which might be considered as more reliable than data on milk, show relatively high output levels. In 1957 and 1958 there were even butter exports.

Mutton consumption, though larger than in the past, is still relatively insignificant, and wool production, which is now reportedly more than double that of old Poland, still covers only one-third of requirements.

Egg production, also higher than before the war, makes a substantial contribution to farm exports and so does poultry, for which, however, exact data are unavailable.

Means of Production

The means of production presently in use differ qualitatively and quantitatively from those used in the past. Poland has participated in the general progress in farm technology noticeable throughout Europe. This development, facilitated by the overall industrialization of the country, was, however, less rapid than the socialization of agriculture--which was to be based on modern large-scale farming--would have required.

Fertilizer--The difference in crop yields between the Provinces of western Poland and the adjacent German territories was primarily due to differences in the use of fertilizers. This is borne out by the fall in yields on German territories ceded to Poland after World War I. Although the farm structure in this area had remained more or less unchanged, yields fell considerably because of lower fertilizer consumption.

Prewar use of fertilizers within the present boundaries was more than five times that of old Poland. How big the gap was may be gaged from the fact that the former German Province of Silesia (now a part of southwestern Poland) alone consumed more fertilizers than the whole of old Poland. Moreover, the yield of stable manure per hectare of sown area was also less in the prewar Provinces than in the then German territories.

Table 9.--Commercial fertilizers: Supply by type, selected years ending June 30, 1938-58

Year	Pure nutrients per hectare of sown area				
	Nitrogen	Phosphor	Potash	Total	Lime
	<u>N</u>	<u>P₂ O₅</u>	<u>K₂ O</u>	<u>Kg.</u>	<u>Kg.</u>
1938 Prewar frontiers	1.7	3.1	2.3	7.1	0.8
1938 Present frontiers	9.3	11.4	17.5	38.2	<u>1/</u>
1949	4.8	5.5	7.4	17.7	5.6
1955	8.9	9.5	16.9	35.3	28.5
1956	10.6	9.8	17.7	38.1	33.2
1957 <u>2/</u>	12.6	10.1	17.7	40.4	31.3
1958 <u>3/</u>	14.6	<u>1/</u>	<u>1/</u>	43.0	<u>1/</u>

1/ Not available.

2/ Consumption.

3/ Planned

Source: Rocznik Statystyczny 1958.

Fertilizer supplies at least equal to the prewar average on the present territory are an indispensable condition for the recovery of production to prewar levels. For some time this appeared a goal difficult to attain, but in 1955-56 it was practically reached and in 1956-57 even exceeded. Stable manure, according to rough estimates,

might now also be equal to prewar.

It appears that the former German territories today receive less fertilizers than before the war (and also less stable manure), while the Polish prewar Provinces are now much better supplied than in the past. Hence the attainment of prewar grain yields in 1957 came about through higher than prewar yields in Poland's old Provinces and lower than prewar yields in the newly acquired territories.

Up to 1956, the socialized sector in agriculture was greatly favored in the supply of fertilizers. Thus during 1955-56, when average fertilizer intake was 28.8 kilograms per hectare private farms received only 23.2 kilograms, but collectives and state farms 46.0 kilograms and 47.4 kilograms per hectare of farmland. The unequal distribution of fertilizers was, however, not primarily intended as discriminatory measure against private farms. Since collectives and state farms possess very little livestock, the lack of stable manure had to be compensated by a relatively high fertilizer supply.

Machinery--In 1957 there were about 56,000 tractors in Polish agriculture. There was only 1 tractor (in terms of 15 h.p. units) per 230 hectares of arable land, which indicates a low degree of farm mechanization. However, the socialized sector was relatively well supplied with farm machinery. Almost half of all tractors in 1957 were on state farms, where 1 tractor was available for every 60 hectares of plowland. Private farms, on the other hand, were poorly equipped. According to official data there was in 1957 only 1 spring harrow to 6 private farms, 1 threshing machine to 42 farms, 1 electric motor to 20 farms, 1 grain cutting machine to 27 farms, and 1 harvesting machine to 145 farms. 9/

The mechanization of private farms can come about only with public support or through cooperative efforts. The average farm is too small to make full use of a tractor and also lacks the means to purchase one. It has been calculated 10/ that the price of a tractor (including ancillary equipment) is equivalent to 300-350 quintals of grain--that is, the value of about 4 years' production of an average farm. Moreover, such a farm could utilize a tractor of average size (25 h.p.) only to one-fifth of its capacity. To use the tractor on a single farm exclusively would require a period of amortization of 50 years.

Cognizant of this state of affairs the government considered farm mechanization as its own responsibility. However, until 1956 it promoted farm mechanization almost exclusively with the purpose of furthering socialization.

9/ Trybuna Ludu, Dec. 18, 1957. 10/ Trybuna Ludu, June 24, 1958

Table 10.--Tractors: Number, distribution, and area per tractor, selected years, 1949-1957

Item	1949	1950	1955	1956	1957
Number of physical units	22,481	28,411	48,342	51,845	55,725
Number in terms of 15 H. P. units	18,369	25,497	$\frac{1}{58,561}$	$\frac{1}{63,900}$	69,384
Number on state farms	14,149	17,796	32,148	33,255	33,206
Number on Machine Tractor Stations	470	5,002	23,788	27,705	26,018
Total arable land per tractor $\frac{2}{}$	$\frac{\text{Ha.}}{870.3}$	$\frac{\text{Ha.}}{627.0}$	$\frac{\text{Ha.}}{271.5}$	$\frac{\text{Ha.}}{248.7}$	$\frac{3}{230.5}$
In State Farms	90.7	84.7	62.1	60.8	59.7

$\frac{1}{}$ without tractors in Village Tractor Stations.

$\frac{2}{}$ without garden land.

$\frac{3}{}$ including garden land.

Source: Rocznik Statystyczny, 1958

The extreme scarcity of farm machinery and equipment immediately after the war led to the organization of state-controlled Village Machine Centers. Later on, State Machine Centers (Państwowe Ośrodki Maszynowe, or POM) were set up. State Machine Centers soon became the centers of farm mechanization. Their main purpose was to provide collectives with mechanical services. To some extent they were also to assist in the work of private farms. Since private farms and collectives were allowed to acquire only simple types of equipment, State Machine Centers held a monopoly over the important types of farm machinery, making collective and private farms entirely dependent on their services. Village Machine Centers became in the course of time comparatively insignificant, but state farms were liberally endowed with farm machinery of their own.

Thus the allocation of farm machinery was unambiguously geared to the policy of socialization. State Machine Centers, in addition to their technical function, played an important political role. They became one of the main vehicles of collectivization and represented an important instrument in the government's attempt to control agricultural production. In 1955, only 6 percent of the total acreage worked by State Machine Centers was private; about three-fourths of their work was performed for collective farms. Important services were rendered also to state farms, notwithstanding the fact that the latter possessed more farm machinery than any other sector of the farming community.

After 1956, restrictions on the possession, sale, and use of all types of farm machinery were lifted. Collective and private farms are now free to acquire all the equipment they are capable of buying. Village Machine Centers have been disbanded and their inventory, as well as excess equipment of State Machine Centers, has been sold to collective and private farmers. The latter now buy equipment either individually or through so-called private farm partnerships and also through so-called agricultural circles.

The function of the State Machine Centers has also changed. Their main customers disappeared when the majority of collectives was broken up. Nevertheless, it was considered useful to maintain the Centers, since many private farmers are still unable to avail themselves of machinery services through their own efforts.

The main features in the reorganization of State Machine Centers are as follows: Instead of being dependent on a central management, they are now controlled by provincial councils. They are to operate like self-contained commercial enterprises on economic principles; their reliance on state subsidies is to be reduced as much as possible. They are to serve indiscriminately private and socialized farms, charging uniform rates, unlike in the past when rates increased according to the size of the private farms to which service was rendered. Of great significance also is the replacement of service payments in kind by cash.

The changed role of the State Machine Centers was already noticeable in 1957, when 40 percent of their services were performed for private farms against only 9 percent in 1956. However, they still seemed to be considered mainly as aids to socialized enterprises, their work for state farms having also greatly expanded.

Rural construction--Rural buildings in prewar Poland were generally primitive and backward. War damages were extensive. It has been estimated that about one-fifth of all farm buildings in Poland were destroyed during the war. By the end of 1949, about three-fourths of the war damage was repaired. However, in the following years the pace of rural reconstruction slackened. In 1954 and 1955, rural building activity fell

Table 11.--Principal farm products: Average prices received by farmers 1950-1957

Commodity	1950	1951	1952	1953	1954	1955	1956	1957
	zlotys per 100 kgs.	zlotys per 100 kgs.	zlotys per 100 kgs.	zlotys per 100 kgs.	zlotys per 100 kgs.	zlotys per 100 kgs.	zlotys per 100 kgs.	zlotys per 100 kgs.
Wheat:								
average price	103.40	101.80	101.68	103.55	117.70	137.01	190.19	263.32
compulsory quota price	--	--	99.20	94.78	100.97	97.63	101.22	194.34
extra quota price	--	--	299.00	319.70	329.77	322.40	313.42	314.17
Rye:								
average price	60.90	60.50	61.23	65.83	71.82	80.87	111.57	153.34
compulsory quota price	--	--	60.66	57.64	61.69	61.58	60.01	114.17
extra quota price	--	--	178.00	185.00	233.34	230.86	233.72	226.50
Barley:								
average price	74.40	76.20	71.93	72.84	73.69	78.63	99.38	194.11
compulsory quota price	--	--	70.96	71.61	70.82	71.26	84.42	156.62
extra quota price	--	--	220.07	230.00	250.70	252.86	257.27	265.88
Oats:								
average price	59.00	84.60	64.34	63.79	67.54	70.08	74.52	135.10
compulsory quota price	--	--	63.25	62.35	61.23	59.22	59.25	111.45
extra quota price	--	--	190.08	200.00	218.40	212.60	192.53	206.63
Potatoes:								
average price	20.26	19.20	22.17	20.94	23.80	22.87	30.60	37.56
compulsory quota price	--	--	18.56	18.56	18.56	18.58	18.58	23.47
extra quota price	--	--	39.98	37.80	53.39	56.80	78.06	61.24
Sugar beets:								
contract price	1/	1/	1/	48.00	48.00	48.00	50.60	58.00
Hogs:								
average price	700.00	610.00	700.00	960.00	970.00	990.00	1,240.00	1,517.00
compulsory quota price	--	--	610.00	600.00	620.00	630.00	660.00	672.00
extra quota price	700.00	610.00	--	1,330.00	1,340.00	1,320.00	1,500.00	1,598.00
contract price	700.00	610.00	830.00	1,330.00	1,330.00	1,330.00	1,480.00	1,681.00
Cattle:								
average price	240.00	240.00	320.00	340.00	440.00	510.00	650.00	617.00
compulsory quota price	--	--	280.00	280.00	300.00	300.00	330.00	297.00
extra quota price	240.00	240.00	360.00	400.00	540.00	620.00	760.00	813.00
contract price	--	--	--	400.00	540.00	620.00	500.00	911.00
Calves:								
average price	290.00	310.00	420.00	430.00	440.00	460.00	460.00	447.00
compulsory quota price	--	--	1/	420.00	430.00	440.00	430.00	427.00
extra quota price	290.00	310.00	1/	580.00	670.00	680.00	670.00	685.00
Milk: 2/								
average price	89.00	97.00	103.00	108.00	130.00	141.00	171.00	230.00
compulsory quota price	--	--	87.00	87.00	87.00	88.00	88.00	--
extra quota price	89.00	97.00	120.00	150.00	173.00	182.00	215.00	--

1/ Not available.

2/ 100 liters.

Sources: Based on Maly Rocznik Statystyczny, 1958

to such low levels that even the most urgently needed replacements and repairs were neglected. Such building materials as were allocated to the countryside went mostly to socialized enterprises. Consequently, the shortage not only of farm buildings but also of farm dwelling houses increased. A survey of farm buildings indicates that at least one-third of all farms were without adequate stables and barns in 1957.

In this year, however, rural building construction revived strongly with the rise of farm incomes and the more liberal supply of building materials to the countryside. Investments for buildings by private farmers rose by an estimated 38 percent over 1956. The supply of cement to the countryside increased by almost 70 percent over 1956. This trend has apparently continued in 1958.

However, the demand for building materials and the need for buildings exceed the supply by far. Whatever is now done in this field is insufficient to compensate for the neglect of past years. The unsatisfactory state of rural buildings is a most serious obstacle to the progress of agriculture .

Rural electrification--In old Poland only 3 percent of all villages used electrical power in 1938. In 1949, almost 29 percent of all villages were connected with the electrical power grid. This change was largely due to the high degree of rural electrification in the former German territories. However, in the following years, concomitant with progressive industrialization, rural electrification has been considerably expanded. By the end of 1957, 44 percent of all villages were electrified.

Prices and Marketing

Since practically all domestic trade is socialized, the bulk of farm products marketed passes also through the channels of socialized trade. The government is by far the most important buyer of farm products. It purchases them from private and collective farms by way of compulsory delivery quotas and extra-quota deliveries, through so-called contracting, and on the free market. In addition to these forms of marketing, there are, of course, also inter-farm transactions and direct sales by the peasants to consumers. The latter are of importance in the case of several farm products. Moreover, there are the deliveries of farm products by state farms.

Compulsory deliveries consist in officially predetermined quotas of certain farm products which the peasants are obliged to sell to the government at fixed prices. Extra-quota sales consist in sales to the government at higher prices than those paid for compulsory delivery quotas, after the latter have been fulfilled. Contract purchases entail sales under contractual agreements, whereby the government obliges

Table 12.--Principal farm products: Government procurements, 1950-57 ^{1/}

Commodity	Unit	1950	1951	1952	1953	1954	1955	1956	1957
Grains ^{2/}									
Total purchases	1,000 m. t.	2,398.1	3,032.9	2,913.5	2,522.4	2,541.2	2,782.0	2,353.3	2,143.0
Percent of production	Percent	20.7	27.6	24.9	25.2	23.1	22.0	19.5	15.8
Amount from state farms	1,000 m. t.	153.8	155.0	463.7	552.0	412.0	471.2	319.1	271.1
Amount from private and collective farms	1,000 m. t.	2,244.3	2,877.9	2,449.8	1,970.4	2,129.2	2,310.8	2,034.2	1,871.9
Percent under compulsory deliveries	Percent			92.6	90.1	91.6	84.2	68.2	59.3
Potatoes ^{3/}									
Total purchases	1,000 m. t.	1,504.3	1,683.1	2,372.7	3,420.9	3,285.0	2,758.2	2,843.6	2,974.0
Percent of production	Percent	4.2	6.3	8.6	10.8	9.2	10.2	7.5	8.5
Amount from state farms	1,000 m. t.	n.o.	n.o.	n.o.	n.o.	n.o.	12.6	19.0	65.7
Amount from private and collective farms ^{4/}	1,000 m. t.	1,081.5	1,914.8	1,921.1	1,992.3	2,020.4	2,745.6	2,824.6	2,908.3
Percent under compulsory deliveries	Percent		77.7	82.4	73.0	58.9	84.0	77.7	61.7
Meat ^{5/}									
Total purchases	1,000 m. t.	1,171.1	859.3	761.8	906.1	842.6	931.4	1,150.2	1,289.5
Percent of production	Percent	71.6	59.0	55.4	59.9	56.0	54.7	60.4	63.0
Amount from state farms	1,000 m. t.	40.4	n.o.	n.o.	n.o.	n.o.	82.2	92.9	94.3
Amount from private and collective farms ^{6/}	1,000 m. t.	1,126.1	810.5	703.8	822.4	754.6	811.1	1,013.4	1,146.9
Percent under compulsory deliveries	Percent			51.3	55.0	51.9	47.7	33.4	28.0
Milk (million liters)									
Total purchases		1,375.5	1,844.2	2,034.3	2,136.7	2,345.3	2,452.9	2,513.5	3,045.5
Percent of production	Percent	17.7	21.3	23.0	23.7	25.1	25.5	25.2	28.8
Amount from state farms		145.9	235.0	262.5	283.1	349.8	389.3	400.3	460.5
Amount from private and collective farms		1,229.6	1,609.2	1,771.8	1,853.6	1,995.5	2,063.6	2,113.2	2,585.0
Percent under compulsory deliveries	Percent			50.8	66.5	49.9	44.1	34.4	

^{1/} Sales to the socialized trading agencies in the form of quota, contract, and free market deliveries.

^{2/} Excluding seed.

^{3/} Excluding industrial potatoes during 1950-54.

^{4/} For food only during 1950-53.

^{5/} Live weight of cattle, calves, hogs, sheep, horses. During 1951-54 exclusive of horses; during 1950 and 1955-57 inclusive of fots purchased from the fot industry.

^{6/} Exclusive of sheep during 1951-54.

Sources: Moly Rocznik Statystyczny 1958; Rocznik Statystyczny 1958

itself to take fixed amounts of products at generally advantageous prices. In all these instances, as well as in the case of government purchases on the free market, prices are determined by the government. Only in interfarm sales and direct sales to consumers is the price freely formed by market forces.

Compulsory deliveries were introduced during 1951-52. They apply primarily to grains, potatoes, livestock, and livestock products. Some of these products are also marketed under contract arrangements which cover most of the industrial crops, such as oilseeds, sugarbeets, and tobacco.

The burden of the system of compulsory delivery does not consist so much in the obligation to sell to the government, as in the low prices which the government pays for such purchases. For agriculture as a whole the quantities claimed by the government through obligatory quotas do not appear to be higher than what would be normally marketed in a free-market economy. (This, of course, was not always true of individual farms which the government often subjected to exactions beyond their marketing capacity.)

The real burden represented by compulsory delivery quotas may be gaged from the difference between the average price received by farmers for a certain product (that is, the average of the prices received for obligatory, extra-quota, contract, and free market sales) and the price received for obligatory deliveries. The less the difference the greater the burden of delivery quotas. Thus in 1952 and 1953, when government pressure on individual farms was very heavy, as much as 90 percent of all grain sales to the government by private farmers were under obligatory quotas. The average prices for wheat and rye received by the farmer were only slightly above those for compulsory deliveries. Thereafter the average prices rose considerably above the quota price, as the amounts collected under quotas declined. In 1957, compulsory deliveries of grain were cut by one-third, and the prices for obligatory deliveries were doubled. Hence only 60 percent of peasant grain sales assumed the form of quota deliveries, and the average prices for wheat and rye were about one-third higher than the quota price.

The 1957 reduction in obligatory quotas applied also to meat (deliveries of which in 1957 represented only 28 percent of farm sales against 55 percent in 1953) and to certain other products. Compulsory deliveries of milk were entirely abolished in 1957. All these measures were accompanied by price increases, so that total farm income rose considerably.

The subsequent rise in peasant purchasing power was probably the main reason why compulsory quotas were not entirely abolished. For it increased the demand for industrial products by peasants to the limits of the available supply. A further rise

of peasant income would not only increase inflationary pressure, but would also entail a shift in the distribution of income between city and village. However, the function of compulsory deliveries as a means of peasant taxation is not the only reason for the retention of this purchasing method. Compulsory delivery quotas are also means of planning production, which could not be as directly influenced if reliance were put on the price mechanism alone. It is also for this reason that the government might want to retain compulsory deliveries.

Prices received by peasants in free market transaction outside the socialized trade are much higher than the average prices paid by the government. Even the prices paid by the government for extra-quota or contract sales fall short of those obtained on the free market, though they approximate them. The price increases granted by the government since 1957 have considerably narrowed the spread between the average prices obtained for sales to the government and those obtainable for free market sales. This trend is likely to continue within the next years.

The price policy followed throughout most of the postwar period--as reflected in the average prices paid by the government--aimed primarily at encouraging the production of meat and industrial crops. By keeping grain and potato prices relatively low, the government succeeded indeed in increasing hog numbers so as to meet the growing demand for meat and at the same time achieve export surpluses. But by these very same measures it reduced the market supply of bread grains, particularly of rye which the peasants used as feed. This partly explains the necessity of importing bread grains for the supply of the city population.

In 1950 the rye-hog price ratio was 11:1, in 1953 even 14:1, in 1957 still about 10:1. In this year the prices for hogs relative to those for rye were less favorable than in previous years. But there was, along with the lowering of compulsory deliveries, a drop in grain sales in spite of the higher grain prices. The marketing of hogs, on the other hand, increased still further. The government therefore revised the prices for compulsory deliveries of rye and potatoes in 1958 in order to increase the market supply of grains and also to check somewhat the supply of hogs.

Prices of cattle and calves during most of the postwar years were low relative to hog prices. The consequent lag in the growth of cattle herds was, however, due to the relatively high prices of feed concentrates. To encourage beef and veal production, cattle prices were increased in 1958.

Sugar beet prices in some years were exceedingly high. In 1952 and 1953 they were about one-half those for wheat. Only recently have sugar beet prices fallen relatively to those for wheat.

Farm Credit

Farm credit has expanded throughout the postwar years. Basically three types of credit have been granted: Long-term credits, short term credits, and payment advances for contractual deliveries.

In 1957, about one-half of all credits represented advances for contractual deliveries, about one-fourth represented other short-term credits, and one-fourth long-term credits.

At the end of 1957 the total indebtedness of agriculture (excepting state farms) amounted to about 5.6 billion zlotys, an amount equivalent to about 15 percent of the gross sales proceeds of that year. Collectives accounted for 29 percent of this debt.

Far more than half of the long-term credits granted to private farmers in 1957 were taken up by farmers with holdings of more than 5 hectares. This reflects the general support already given to all farms, large and small, for in previous years credit facilities were less easily accessible to larger than to smaller farmers. The bulk of these long-term loans--which altogether equaled one-fourth of the estimated fixed investment by private and collective farms in 1957--was used for the construction and repair of buildings and for the purchase of breeding and draft animals. Only 10 percent was used for the purchase of farm machinery. The largest proportion of the short-term credits granted in 1957 was used for livestock production.

A significant change in farm credit policies consisted in the granting of considerable loans to various peasant cooperatives which had been revived or newly founded after 1956. Most of these credits were used for rural electrification and the purchase of farm machinery.

Taxation

The so-called land tax is the principal tax. Up to 1957 it was based on the combined value of sales proceeds of farm products and of farm consumption in kind. Farms were classified according to the productivity of land in order to establish income norms. These norms multiplied by the different land classes within each farm formed the basis of taxation.

Since the tax basis was calculated in terms of cash equivalents of rye and since farm prices in general rose faster than those of rye, this system of tax assessment soon became outdated, for the value of farm sales and farm consumption increased by more than the taxable income, and the burden of taxation decreased. Although tax rates

were increased in 1954, the taxable income continued to lag behind the growth of total income. Thus the tax burden which in 1951 represented more than 8 percent of the gross income of farms (including the value of consumption in kind) represented only 4 percent in 1956. 11/

However, the lessening of the burden of direct taxation was more than offset by the increase in compulsory deliveries, which by their very nature are but another form of taxation. If the difference between free market prices and obligatory delivery prices is considered as the tax element inherent in compulsory deliveries, the total tax burden in 1956 was heavier than in 1951. It was only in 1957, with the decline in compulsory delivery quotas, that the total tax load declined.

Changes introduced in the land tax system in 1957 tended further to reduce taxation. Also arbitrariness in tax assessment has been curtailed. As compulsory deliveries are being further reduced and the price gap between compulsory and voluntary sales is narrowed, this form of taxation also becomes less burdensome.

Farm Organizations

An important result of the new agricultural policy is the revival of cooperatives and cooperative-like farm associations. Since socialization remains a goal of farm policy, but collectivization on a large scale proves at present impracticable, the government favors the voluntary association of peasants in cooperatives and so-called agricultural circles, in the hope that these organizations might later evolve into socialist farm enterprises. State aid contributes to a great extent to the development of these organizations. They receive credit on favorable terms, tax exemptions, priority in the purchase of means of production, and other aid.

At the beginning of 1959, there existed about 16,000 agricultural circles in 40 percent of all Polish villages embracing some 450,000 peasants. There were also some 6,000 peasant women circles in existence with a membership of 150,000.

These circles engage in a variety of activities, such as common purchase and cooperative use of machinery, cooperative use of brick kilns, rural electrification, and land improvement. Many of them have an educational purpose aiming at the improvement of farming practices and the spread of general knowledge.

In addition to these agricultural circles, cooperatives similar to those existing in Western countries have been revived. Most important among them are loan and saving cooperatives and dairy cooperatives. The former already counted 1,420,000 members

11/ Nowe Rolnictwo No. 11, June 1, 1957.

at the end of 1958, almost half of all farm owners. The number of dairy cooperatives amounted to 658 in the spring of 1958.

Food

Food shortages have plagued the Polish population throughout most of the postwar period. Since the per capita output of many farm commodities exceeded prewar levels at an early date, the recurrence of food shortages was rather puzzling to many observers. There were, however, several reasons for the persistence of food scarcities in spite of comparatively high production.

Per capita food consumption of the rural population since the war has been higher than in old Poland, while the demand for food by the city population also has increased greatly. With rising incomes and changes in the occupational structure of the population, the demand for food has shifted. Comparatively more high-quality food is now demanded than before the war. Moreover, the socialization of the trade network has led to many failures in food distribution which have not been fully overcome even at the present time. Shortcomings in food distribution have been further aggravated by the rapid population growth, particularly by the rapid rate of urbanization. Poland's population has increased during the last 13 years by about 1.9 percent per year, the highest growth rate in any European country. Yet, the urban population has increased by at least double this rate. The cumbersome distribution system adjusted itself to these rapid changes only with great difficulties. However, by 1955-56 food provisions had considerably improved; and since 1957 they have been fully sufficient to meet demand.

The total calorie intake is now higher than before the war, and fewer calories are obtained from grains and potatoes, more from meat and milk. Per capita consumption of these two items is estimated to be one-third higher than before the war. Per capita consumption of sugar is now 70 percent, that of fat is 20 percent larger than in the past.

The improvements in consumption appear to be still greater in comparison with prewar Poland. According to official estimates per capita consumption of meat in 1957 was double that of prewar Poland, milk consumption was one-third higher, and sugar consumption 170 percent higher than in the past. In reality the improvements in the average diet are not as great for the relevant prewar statistics include considerable underestimates while present consumption statistics show some upward bias.

Table 13 -- Estimated Food Balance: Average 1934-38 (excluding alcoholic beverages) ^{1/2/} Population: 32,000,000

Product	Supply				Utilization						Supply for food		
	Production	Net trade	Change in stocks	Total Supply	Nonfood uses				Total gross	Extr. rate	Net		
					Seed and waste	Feed	Industrial	Total			Total	Per capita	
											Total	Per year	Per day
-----1,000 metric tons-----										Percent	1,000	Kilograms	Calories
Wheat and rye	9,150	-910	+ 300	7,940	1,400	1,190	65	2,655	5,285	77.9	4,118 ^m	128.7	1,245
Rice, milled		+ 45		45					45		45	1.4	15
Other grain	5,245	-860		4,385	630	3,050	135	3,815	570	63.2	360	11.2	100
Total grain	14,395	-1,725	+ 300	12,370	2,030	4,240	200	6,470	5,900		4,523	141.3	1,360
Sugar, refined	900	-410		490							490	15.3	160
Potatoes	39,325	-750		38,575	11,225	14,850	2,500	28,575			10,000	312.5	600
Dry legumes	150	- 5		145	30	30		60			85	2.7	25
Other vegetables	1,200	+200		1,400	240			240			1,160	36.2	25
Fruit (in terms of fresh)	650	+350		1,000	10			100			900	28.1	35
Meat (carcass wt.)	1,175	-200		975							975	30.5	205
Fish (landed wt.)	45	+ 70		115		5		5			110	3.4	5
Fats and oils (fat content)	365	+ 33		398			50	50			348	10.9	265
Cheese	135	- 5		130							130	4.1	30
Whole milk	10,400	-300		10,100		1,300 ^{3/}		1,300			4/ 3,300	103.1	180
Eggs	185	- 20		165							165	5.2	20
Total consumption												2,910	

^{1/} Partly based on official sources, partly estimated.

^{2/} Present frontiers.

^{3/} For butter and cheese

^{4/} For direct human consumption as fresh, dried or canned milk (in terms of fresh milk).

Table 14.--Estimated Food Balance: 1957-58 (excluding alcoholic beverages)

Product	Supply				Utilization								
	Production	Net trade 1/	Change in stocks	Total supply	Nonfood uses				Supply for food				
					Seed and waste	Feed	Industrial	Total	Total gross	Extr. rate	Net		
											Total	Per year	Per capita
1,000 metric tons				Percent		1,000 m.t.	Kilograms	Calories					
Wheat and rye	9,755	+ 887	+ 547	10,095	1,750	2,910	80	4,740	5,355	73.5	3,926	137.6	1,345
Rice, milled		+ 21	- 10	31					31		31	1.1	10
Other grains	4,285	+ 82	+ 57	4,290	730	3,100	125	3,955	335	49.9	167	5.9	60
Total grain	14,020	+ 990	+ 594	14,416	2,480	6,010	205	8,695	5,721		4,124	144.6	1,415
Sugar, refined	1,060	- 189	+ 115	756							756	26.5	280
Potatoes	35,120			35,120	9,970	17,835	2,000	24,805			5,315	186.2	355
Dry legumes	110			110	20	20		40			70	2.5	25
Other vegetables	2,700			2,700	540			540			2,160	75.7	45
Fruit (in terms of fresh)	350	+ 46		376	50			50			326	11.4	15
Meat (carcass wt.)	1,275	- 104		1,171							1,171	41.0	300
Fish (landed wt.)	140			140							140	4.9	10
Fats and oils (fat content)	396	+ 20	+ 24	392			37	37			355	12.5	305
Cheese	30	- 8		22			2/				22	0.8	5
Whole milk	9,000			9,000	900	4,300					3/ 3,800	133.1	230
Eggs	210	- 15		195							195	6.8	25
Total consumption													3,005

1/ Since Polish trade statistics are apparently incomplete, some minor items are not included in this column. These omissions are, however, insignificant.

2/ Milk used in butter and cheese production.

3/ For direct human consumption as fresh, dried or canned milk (in terms of fresh milk).

However, it should be kept in mind that Poland's present population cannot be properly compared either with that of old Poland or with that of the present territory before the war, because the prewar population in either case contained elements not represented in the present population. In so far, increases in per capita consumption are not an accurate reflection of improvements in welfare. It seems nevertheless certain that the average diet of Poland's present population has greatly improved in comparison with the past.

Foreign Trade in Farm Products

In 1957, agricultural imports amounting to \$422 million accounted for 35 percent of all imports. Agricultural exports amounting to \$128 million represented 14 percent of all exports. About half of Poland's farm imports consisted of food products, the other half of agricultural raw materials for industry.

In terms of calories Poland was self-sufficient in food during 1957-58. Net imports of grains, fat, and fruits for current consumption were balanced by exports (or increases in stocks) of meat, meat products (including live animals), eggs, poultry, and sugar.

Cotton and wheat are the most important farm imports; meat, eggs, and sugar the most important farm exports. In 1957 the Soviet Union was the chief supplier of cotton and wheat, Communist China the main source of imported oilseeds, and Turkey the principal supplier of tobacco.

In consequence of the aid agreements concluded with the United States in 1957 and 1958, the U.S. share in Polish farm imports, insignificant during most of the postwar years, has become important. U.S. cotton accounted for 28 percent of Polish imports in 1957 and for 36 percent in the first half of 1958. U.S. wheat accounted in 1957 for 21 percent and in the first half of 1958 for all wheat imports. U.S. aid contributed to alleviating Poland's strained balance of payments. It also contributed to the building up of stocks and thus enabled the Polish Government to pursue its liberal agricultural policy.

In 1957, the main foreign importers of Polish meats and meat products were the United Kingdom followed by West Germany and the United States. The most important foreign buyers of eggs were West Germany and Italy. The former also purchased the bulk of Polish poultry exports.

Plans and Perspectives

The main targets of the agricultural development plan 12/ for the years 1959-1965 are as follows: Total farm output is to increase by some 30 percent. Average grain yields are to increase from 15 quintals per hectare in 1957 to 17.5 quintals in 1965. Average yields of potatoes and sugar beets are to rise from 127 and 225 quintals per hectare in 1957 to 160 and 250 quintals in 1965. Cattle numbers are to increase from 8.2 million in 1957 to close to 11 million and hog numbers from 12.3 million to over 16 million in 1965. The output of slaughter animals in 1965 is to be 45 percent higher, and that of milk some 40 percent higher than in 1957.

These are ambitious goals. However, they are dictated by the likely exigencies of Poland's future development. A rapidly growing population, further urbanization, rising incomes and the necessity for a further rise in exports will lead to an overall growth in demand for farm products which seemed to justify the targets set forth in the plan.

It is likely that something like two-fifths of the projected increase in farm output would be absorbed by the additional population; and in view of the increase in exports probably not more than half of the planned increase in farm production would contribute to an improvement of the average diet.

Are these targets attainable? With a doubling of fertilizer consumption, as foreseen in the plan, the crop yield targets can be attained. Hence enough grain and potatoes would be available to sustain the increased livestock herds and meet the demand for food and other uses. Whether the goals for cattle numbers, meat, and milk output can be attained appears to be more questionable, for the fulfillment of these goals would require extensive changes in feeding practices, in particular great increases in the supply of high protein feeds and also a considerable intensification of the cultivation and use of grazing land.

However, even if all goals should not be fulfilled, a considerable increase in agricultural production, and at least some further increase in consumption and exports may be expected.

12/ PZPR Directives op. cit.

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